

PHASE-CONTRAST MICROSCOPE

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Abstract

PURPOSE To provide a phase-contrast microscope which can be switched over between phase-contrast images in two dark-contrast and bright-contrast states under the same observations conditions accompanied by none of eccentricity, rotation of a deflecting plate, etc., in the optical system constituting the phase-contrast microscope.

CONST. TUTION. A phase ring 4 is arranged at the pupil position of an image formation optical system 3 in a conjugate position in relation to a ring slit 2 arranged at the pupil position of a lighting optical system 1 through a sample surface. The phase ring 4 is constituted by clamping both the surfaces of an element of liquid crystal, etc., which electrically which varies in phase difference quantity, with nearly transparent electrodes. When a sample 5 arranged on the sample surface is observed through this phase-contrast microscope by a phase difference method, an electric state applied to the electrodes (impressed voltage) is adjusted by a liquid crystal controller 6 to vary the phase difference quantity of the phase ring 4, and the phase-contrast images in the two bright-contrast and dark-contrast states are switched and observed.

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